

CLAIMS

What is claimed is:

1. A method of transmitting frames on a communications link comprising:
 5 monitoring the communications link to determine a probability of error
 on the link; and
 selecting frame size as a function of the determined probability.
2. The method of claim 1, wherein the frame size is selected as a function of
 10 overhead.
3. The method of claim 2, wherein, the selected frame size is selected from a set of
 frame sizes computed numerically as the solution to $1 + \frac{O}{F_{opt} + O} = \frac{\alpha F_{opt}}{1 - e^{-\alpha F_{opt}}}$
 where O is overhead, F_{opt} is optimum frame size and $\alpha = -\ln(1 - \text{probability of bit error})$.
 15 error).
4. The method of claim 3, wherein if overhead is significantly larger than the frame
 size, the selected frame size is inversely proportional to the natural logarithm of
 the determined probability.
- 20 The method of claim 1, wherein the step of monitoring monitors the signal to
 noise ratio on the communications link.
5. The method of claim 1, wherein the step of monitoring monitors a frame error
 25 rate on the communications link.
7. The method of claim 1, wherein frames are transmitted over the communications
 link using the IEEE 802.11 media access control and physical layer protocol.

8. The method of claim 7 wherein the frame is one of a plurality of fragments in a transmitted fragment burst.
- 5 9. A system for transmitting frames on a communications link comprising:
a monitoring routine which monitors the communications link to
determine a probability of error in the link; and
a frame sizer which selects frame size as a function of the determined
probability.
- 10 10. The system of claim 9, wherein the frame size is selected from a table as a
function of overhead.
11. The system of claim 9, wherein the frame size is selected from a set of frame
15 sizes computed numerically as the solution to $1 + \frac{O}{F_{opt} + O} = \frac{\alpha F_{opt}}{1 - e^{-\alpha F_{opt}}}$
where O is overhead, F_{opt} is optimum frame size and $\alpha = -\ln(1 - \text{probability of bit error})$.
- 20 12. The system of claim 11, wherein if overhead is significantly larger than the
frame size, the selected frame size is inversely proportional to the natural
logarithm of the determined probability.
13. The system of claim 9, wherein the monitoring routine monitors signal to noise
25 ratio on the communications link.
14. The system of claim 9, wherein the monitoring routine monitors a frame error
rate on the communications link.

15. The system of claim 9, wherein frames are transmitted over the communications link using the IEEE 802.11 media access control and physical layer protocol.
16. The system of claim 15, wherein the frame is one of a plurality of fragments in a transmitted fragment burst.
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17. A system for transmitting frames on a communications link comprising:
 - means for monitoring the communications link to determine a probability of error on the link; and
 - 10 means for selecting frame size as a function of the determined probability.